

Listing of the Claims

1. (Currently Amended) A resonant linear motor driven cryocooler system comprising:
  - (A) a resonant linear motor having an internal stroke volume;
  - (B) a cryocooler spaced from the resonant linear motor; and
  - (C) connecting tubing extending from the resonant linear motor to the cryocooler, said connecting tubing having a volume which exceeds the internal stroke volume of the resonant linear motor; and
  - (D) a dashpot positioned on the connecting tubing between the resonant linear motor and the cryocooler; and
  - (E) a heat exchanger positioned between the resonant linear motor and the dashpot or between the cryocooler and the dashpot.
2. (Original) The cryocooler system of claim 1 wherein the connecting tubing volume is at least twice the internal stroke volume of the resonant linear motor.
3. (Cancelled)
4. (Currently Amended) The cryocooler system of claim 31 wherein the dashpot comprises a mass.
5. (Currently Amended) The cryocooler system of claim 31 wherein the dashpot comprises a spring.
6. (Currently Amended) The cryocooler system of claim 31 wherein the dashpot comprises a piston.
7. (Cancelled)
8. (Cancelled)
9. (Original) The cryocooler system of claim 1 wherein the cryocooler is a pulse tube cryocooler.

10. (Original) The cryocooler system of claim 1 wherein the cryocooler is positioned to provide refrigeration to a superconducting magnet of a magnetic resonance imaging system.